

This invention relates to domestic cooking appliances and, in particular, to a removable and adjustable rack of the kind which is normally used in the oven of a domestic cooking stove to support dishes or containers within which is placed food to be cooked.

The use of a rotating spit in order to support meat of the like for cooking purposes has, of course, been well known for a very long time but it is only within relatively recent years that electric and gas cooking stoves embodying an oven
10 have been constructed in a manner which enables these ovens to include, in addition, a rotatable spit upon which meat may be placed for cooking purposes. The practical mechanics of such an installation normally dictate that the spit be located in the centre of the oven and, as a result, the meat carried by the spit is normally in a position which would interfere with the removable and adjustable rack normally contained in the oven.

Until the present invention, the rack was removed during the time that the spit was in operation and this practice required that the rack be stored and that the housewife exer-
20 cise some care in removing the rack since, not infrequently, the rack itself was hot and difficult to handle.

A further disadvantage of the prior arrangement resided in the fact that, if the spit were in operation, the rack could no longer be available to support other articles of food which might otherwise have been cooking at the same time.

Accordingly, it is an object of the present invention to provide an arrangement whereby the disadvantages of the prior constructions are mitigated and by means of which certain additional advantages are achieved thereby making the convenience and
30 operation of the stove superior to that of the prior art.

The invention will be described specifically by way of example only with reference to the accompanying drawings in which like reference numerals denote like parts in the various

views and in which:

Figure 1 is a perspective view, cut away, of the interior of the oven in a domestic cooking stove looking from the rear towards the front of the oven, and

Figure 2 is a view similar to figure 1 showing the rack of figure 1 in a different condition.

Referring now to figure 1 the domestic cooking stove may be seen to comprise an outer casing 10 which, conveniently, is of enamelled sheet metal and which may be formed, assembled
 10 and constructed in accordance with any of the well known conventional practices and methods. Normally, the oven will be defined by an internal sheet metal wall 11 which may be spaced from the outer wall 10 and the space may be filled with an insulating material, once again in a conventional manner.

Normally, access to the oven is gained by means of an oven door 12 which is suitably hinged and mounted so that it may be opened either about a horizontal or a vertical hinge axis.

Within the oven, means are provided to support at least one rack and, in most cases, two racks, each of which carries
 20 means to define a rack surface upon which dishes, containers, food and the like may be placed so as to be heated and cooked within the oven enclosure.

In figure 1, there are shown two racks including lower rack 13 which comprises a frame 14 which carries a plurality of parallel, spaced, surface-defining rods 15 as may readily be seen. The wall 11 of the oven may carry supporting means such as the bracket 16 which, by means of engagement with supporting means 17 carried by the rack itself, supports the rack within the oven enclosure.

30 In many conventional arrangements the rack 13 is removably but not adjustably carried within the oven. The rack 13 forms no part of the present invention and will not be further discussed.

The oven also includes a second rack 18 which is constructed in accordance with the present invention and which is removably mounted in the oven by any appropriate means, including those of the prior art, the drawings herein illustrating the rack as being provided with means 19 which are adapted to engage supporting means 20 on each side of the oven. The means 20 may comprise an arm which constitutes a track along which the means 19 may slide so that the rack may be moved out of and into the oven and the means 20 may either comprise arms which are capable
 10 of being raised or lowered so as to adjust the position of the rack 18, or, alternatively, there may be a plurality of means 20 in spaced parallel relationship so that the rack 18 may be engaged with the appropriate supporting bracket to locate the rack at the desired level.

Turning now to figure 2, the rack 18 will be seen to comprise two pieces which are shown in the assembled condition in figure 1 and of which, in figure 2, only the first piece is shown. This first piece comprises a primary rack defined by a frame having a first part 21 formed from a piece of metal rod
 20 which is bent to define a generally rectangular area by means of two side portions 22 and 23, a front portion 24, and a rear portion which is provided with a central interruption which interruption is defined by rear portions 25 and 26 lying, one to each side of the interruption.

The frame also includes a second part of U-shape, this second part being secured by means of the free end 27 and 28 of each leg 29 and 30 of the U to the free ends of the parts 26 and 25 of the first frame part respectively with the bight 31 of the U lying parallel to the portion 24 of the first frame part which
 30 defines the front edge of the rack.

Thus, it will be seen that the first and second frame parts, together, define a generally rectangular rack which is provided with a central aperture, also rectangular, opening

through the first frame part by means of the interruption in the rear wall. Alternatively, the primary rack may be considered as comprising a rack defining portion on either side of a central aperture, the two rack defining portions being integrally joined together across the front edge.

The primary rack also carries a plurality of spaced, parallel rods 32 each of which is welded to the frame and which, collectively, define a rack surface on each side of the aperture.

In addition, the frame portions 25 and 26 may be provided
 10 with upwardly extending loop members 33 which constitute a low wall to prevent dishes and the like from sliding off the rack when the rack is moved forwardly from the position shown in figures 1 and 2 towards a position in which it will extend through the access opening to the oven which, in these figures, is closed by the oven door 12.

The rack 18 is provided, along its front edge, with an ornamental flange comprising a first, substantially vertical portion which cannot be seen in figures 1 and 2 but which is secured, such as by welding, to the forward edge of the frame portion 24.
 20 The flange conceals from view the ends of the rods 32 and protects the user of the mechanism from abrasion on the relatively sharp ends of these rods and on any irregularities or roughness in the weld at this point.

In addition, the ornamental flange is provided with a second, substantially horizontal portion 34 which lies parallel to and spaced from the upper edge of the frame member 24 and the bight portion of the U-shaped second frame part so as to provide a gap therebetween for a purpose which will become apparent.

Returning now to figure 1, the rack 18 will be seen to
 30 also include a secondary rack 18a which is defined by a first short end frame member 35 and a second, longer end frame member 36 between which extend a plurality of spaced, parallel surface-defining rods 37 each of which may, conveniently, be of elongated

U-shape with the bight 38 of the U being bent upwardly at 90° to define a continuation of the low wall defined by members 33 on the primary rack. At the end of these rods remote from the portions 38, they extend beyond the frame member 35 and, these ends may be inserted within the gap between the frame member 24 and the horizontal flange 34. This cooperation between the ends of the rods 37 and the gap between the frame member 24 and the flange 34 supports that end of the secondary rack 18a and the longer end frame member 36 is provided with extensions 39 and 40
10 which are adapted to lie upon the upper surface of the primary rack to support the opposite end of the secondary rack 18a.

From the description given above it is apparent that the secondary rack 18a may be readily inserted in or removed from the primary rack 18. If inserted in the primary rack, the combined rack constitutes and functions as a continuous supporting surface in exactly the same way as does the rack 13 with the additional advantage that, in most cases, this rack will be adjustable as well as removable.

However, in stoves of the kind which embody a rotatable,
20 spit supporting socket 41 (see figure 2), the removable portion is of primary significance.

The socket 41, carried in the rear wall of the oven, is conveniently rotated by an electric motor (not shown) through a transmission such as the chain 42 and is provided with an extension 43 which projects into the oven enclosure. The extension 43 is provided with a socket which is normally of square or other non-circular cross-section and into which a similarly shaped end of a spit 44 may be inserted. The spit may be supported at the opposite end by means such as a bracket 45 carried adjacent that
30 end of the spit remote from the socket 41, or, alternatively, there may be two such supporting brackets, the second one being shown at 46 in figure 2.

Under conditions such that the meat carried by the spit

44 interferes with a rack not constructed in accordance with the present invention, the rack must be removed before the spit and meat can be inserted in the manner shown in figure 2. By means of the present invention, however, it is an extremely simple matter to remove only the secondary rack 18a thereby opening the aperture in the primary rack 18 within which the meat and spit may lie so as to freely rotate without interference from the rack. In addition, the rack may remain within the oven and may lie in a plane including the axis of rotation of the spit, and, on each
10 side of the meat and spit 44, may support dishes, cooking utensils and the like which may contain other foods which may, therefore, be cooked simultaneously with the meat.

It will be appreciated that this construction provides for a more efficient operation of the oven as it is not necessary to perform two separate cooking operations, one for the meat and a second for the other food, with the consequently greater consumption of gas or electricity. Further it is possible to simultaneously prepare all of the dishes necessary to provide a complete meal and to bring them all to the same stage of preparation simul-
20 taneously in a manner which was heretofore difficult or impossible when the spit was being employed.

Further advantages of the present invention, from the foregoing specification and the attached drawings, will become apparent to those skilled in the art.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A two-part supporting rack for removable installation in an oven by means of engagement between the rack and mounting means carried by the oven, said supporting rack including a primary part having a rack-defining portion adapted to support articles within the oven on either side of a central aperture and a secondary part adapted to be removably received in and to close the aperture and to be carried by and in co-planar relationship with the primary part.

2. In combination, a stove having an oven, a rear wall in the oven, a rotatable spit receiving socket in the rear wall whereby a spit may be rotated and supported by one end, means within the oven to support and journal the opposite end of the spit, a primary rack supported by means in the oven and having an aperture therein such that, when the primary rack lies in a horizontal plane which includes the axis of rotation of the spit, food carried by the spit may freely rotate within the aperture, the primary rack being adapted to carry other articles on either side of the aperture, and a secondary rack complementary in shape to the aperture in the primary rack so that the aperture may be closed by the insertion of the secondary rack therein.

3. A supporting rack adapted to be removably mounted in the oven of a cooking stove comprising a primary rack defined by a frame having a first part enclosing a generally rectangular area, means on the frame to engage rack supporting means in the oven, that side of the frame adapted to lie adjacent the rear

wall of the oven having an interruption centrally thereof, a second part of the frame comprising a member of U-shape, the free end of each leg of the U being secured to one side of the interruption with the legs lying parallel to the adjacent sides of the first frame part and the bight of the U lying parallel to that side of the first frame part adapted to lie adjacent the front of the oven, the second frame part thereby defining within the first frame part a generally rectangular aperture opening through the first frame part by means of the interruption, a series of spaced, parallel rods carried by the first and second frame parts to define a rack surface on each side of the aperture, the first frame part carrying, along that side remote from the interruption, an ornamental flange comprising a first, substantially vertical portion secured to the first frame part and a second, substantially horizontal portion lying above and spaced from the first frame part along at least that portion of the length of the first frame part which is coextensive with the bight of the U-shaped second frame part; and a secondary rack adapted, at one end, to be inserted between the decorative flange and the frame part and to be supported upon the first frame part and, at the other end, having lateral extensions adapted to lie upon the primary rack to thereby removably support the secondary rack upon the primary rack in a position to completely close the aperture in the latter.

Ridout & Maybee
111 Richmond St. W.
Toronto 1, Canada

Patent Attorneys of the Applicant

FIG. 1

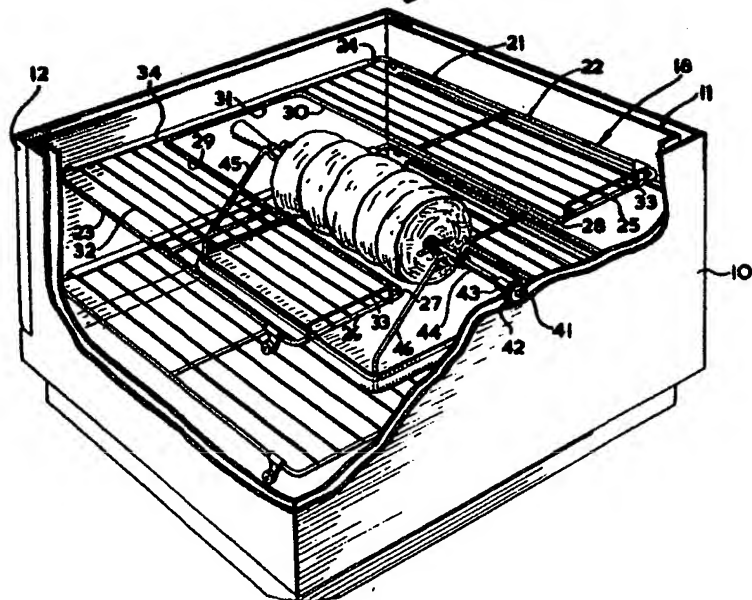
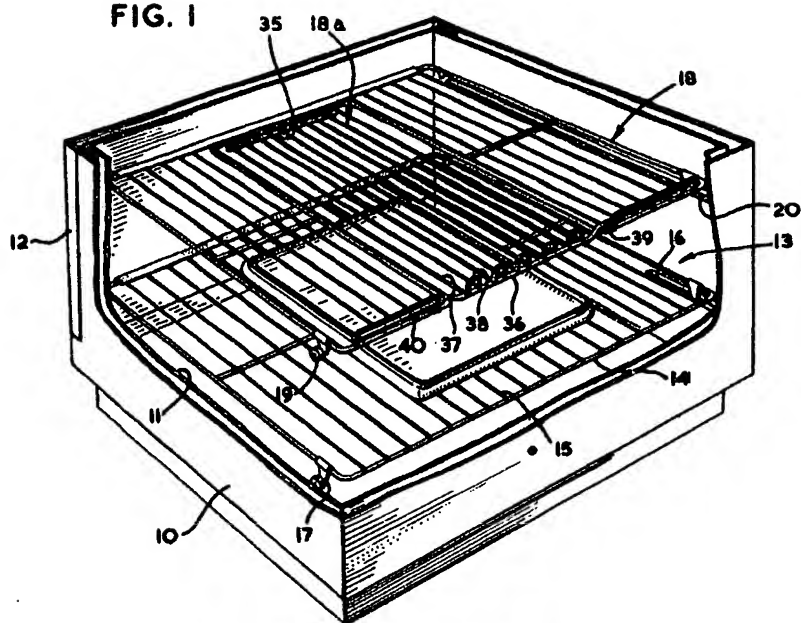


FIG. 2

INVENTOR
K. A. WARDEN

PATENT
Riddick & Mayhew